

1 **ABSTRACT OF THE DISCLOSURE**

2 A semiconductor apparatus and method for making the semiconductor apparatus are
3 provided. The semiconductor memory device can include functional circuit blocks (100)
4 having a multi-layer wiring structure for providing electrical connections between device
5 elements within functional circuit blocks (100). Multi-layer wiring structure can include a
6 wiring layer (M2) disposed in a M2 wiring layer horizontal track (120) and a M2 wiring
7 layer vertical track (122). M2 wiring layer horizontal track (120) provides electrical
8 connections by using wiring layer (M2) disposed in a horizontal direction and M2 wiring
9 layer vertical track (122) provides electrical connections by using wiring layer (M2) disposed
10 in a vertical direction. A wiring layer (M1) can form electrodes having electrical
11 connections to diffusion regions of the device elements in functional circuit blocks (100).
12 Wiring layer (M1) can have a higher sheet resistance and higher melting point than wiring
13 layer (M2).